

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P562597

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562597
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-2HI-40-UNV-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9389.0 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

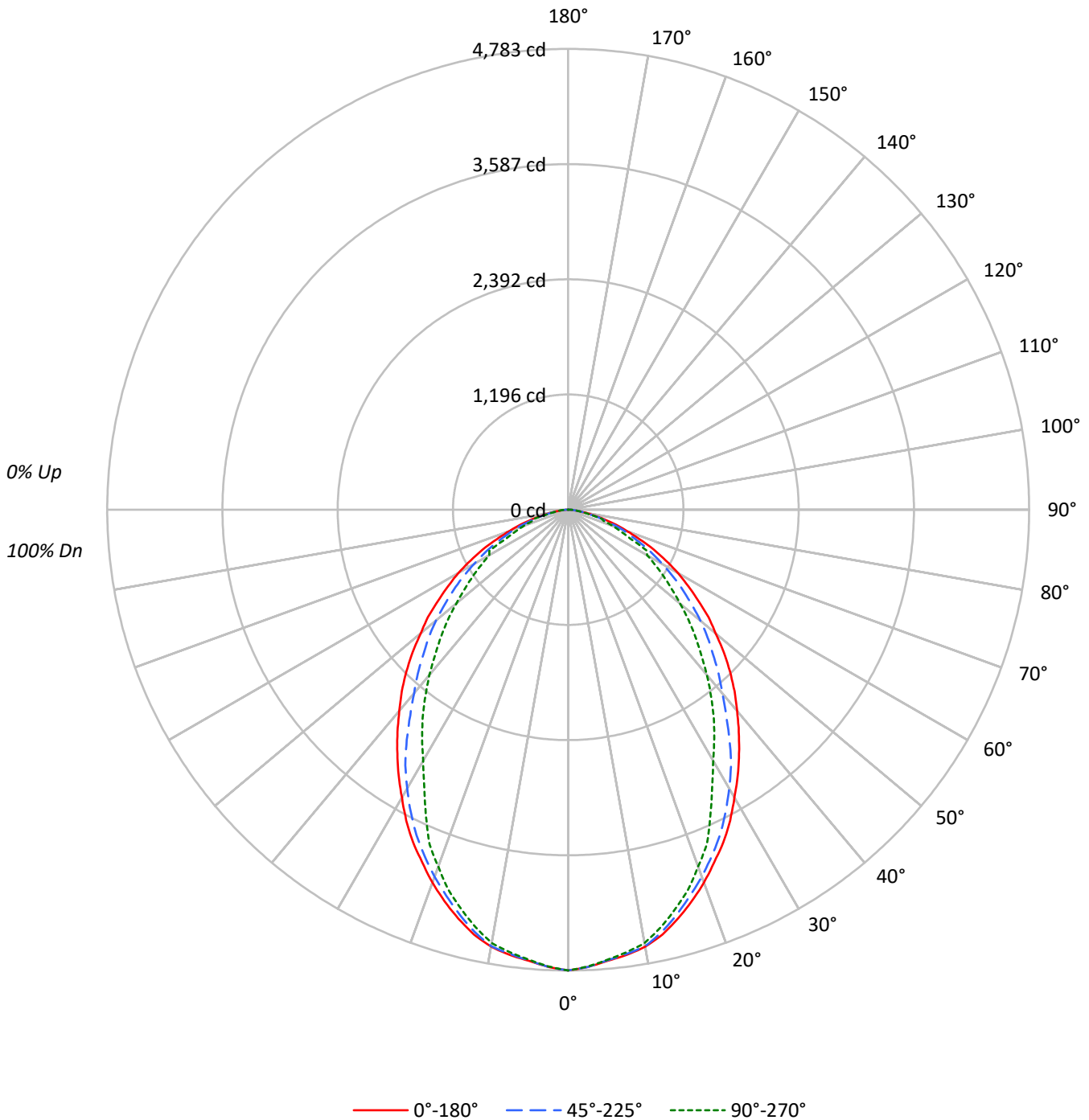
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P562597

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-93-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P562597

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-93-86-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6435	6435	6435
5°	6348	6340	6333
10°	6293	6285	6240
15°	6123	6061	5976
20°	5898	5803	5645
25°	5656	5532	5188
30°	5360	5188	4673
35°	5077	4795	4323
40°	4788	4370	3933
45°	4513	4040	3556
50°	4178	3750	3171
55°	3865	3398	2841
60°	3541	3035	2544
65°	3116	2658	2253
70°	2567	2327	1914
75°	2041	1782	1868
80°	1371	1285	1199
85°	854	1024	1195

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4513 cd/sqm



TEST NUMBER: P562597

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-93-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	445.2	4.7
10°-20°	1221.8	13.0
20°-30°	1691.5	18.0
30°-40°	1803.6	19.2
40°-50°	1645.5	17.5
50°-60°	1289.1	13.7
60°-70°	840.2	8.9
70°-80°	372.2	4.0
80°-90°	79.9	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3358.5	35.8
0°-40°	5162.2	55.0
0°-60°	8096.7	86.2
0°-90°	9389.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9389.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4783	4783	4783	4783	4783	
5°	4700	4694	4694	4689	4689	446
15°	4396	4396	4351	4307	4290	1236
25°	3810	3787	3727	3594	3494	1749
35°	3091	3069	2919	2698	2632	1932
45°	2372	2322	2123	1946	1869	1827
55°	1648	1598	1449	1277	1211	1478
65°	979	923	835	852	708	964
75°	393	365	343	326	359	421
85°	55	61	66	72	77	77
90°	0	0	0	0	0	



TEST NUMBER: P562597

CATALOG NUMBER: FSR-24-4-LD4-2HI-40-UNV-93-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4782.6	4782.6	4782.6	4782.6	4782.6
2.5°	4749.5	4749.5	4749.5	4743.9	4743.9
5°	4699.7	4694.2	4694.2	4688.6	4688.6
7.5°	4661.0	4655.5	4649.9	4644.4	4633.3
10°	4605.7	4605.7	4600.2	4572.5	4567.0
12.5°	4517.2	4511.7	4489.6	4450.9	4439.8
15°	4395.6	4395.6	4351.4	4307.1	4290.5
17.5°	4262.9	4257.4	4202.1	4157.8	4135.7
20°	4119.1	4108.1	4052.8	3980.9	3942.2
22.5°	3958.8	3958.8	3892.5	3798.5	3759.8
25°	3809.5	3787.4	3726.6	3593.9	3494.4
27.5°	3638.1	3604.9	3538.6	3350.6	3234.5
30°	3450.1	3433.5	3339.5	3096.3	3007.8
32.5°	3273.2	3245.6	3146.0	2891.7	2819.8
35°	3090.7	3068.6	2919.3	2698.2	2631.8
37.5°	2908.3	2880.6	2692.6	2515.7	2432.8
40°	2725.8	2692.6	2488.1	2327.7	2239.3
42.5°	2554.4	2510.2	2311.1	2139.7	2040.2
45°	2372.0	2322.2	2123.2	1946.2	1868.8
47.5°	2189.5	2145.3	1962.8	1780.4	1691.9
50°	1996.0	1957.3	1791.4	1609.0	1515.0
52.5°	1835.6	1774.8	1614.5	1432.0	1354.6
55°	1647.7	1597.9	1448.6	1277.2	1210.9
57.5°	1476.3	1426.5	1288.3	1127.9	1072.6
60°	1315.9	1244.0	1127.9	989.7	945.5
62.5°	1139.0	1083.7	984.2	868.1	923.4
65°	978.6	923.4	834.9	851.5	707.7
67.5°	801.7	774.1	696.7	619.3	597.1
70°	652.4	619.3	591.6	508.7	486.6
72.5°	519.7	486.6	447.9	403.6	387.0
75°	392.6	364.9	342.8	326.2	359.4
77.5°	270.9	259.9	243.3	226.7	221.2
80°	176.9	171.4	165.9	160.3	154.8
82.5°	105.1	105.1	105.1	105.1	105.1
85°	55.3	60.8	66.3	71.9	77.4
87.5°	33.2	33.2	38.7	44.2	49.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)